

REMARKS

Claim Rejections – 35 USC § 103

Claims 1-14 are rejected under 35 USC 103(a) as being unpatentable over Dingwall et al. (US 5,903,752) in view of Clayton (US 6,971,101). This rejection is respectfully traversed for the following reasons.

The Examiner has acknowledged that Dingwall fails to teach “having said at least one application at said user mode level determine a sequence to be followed for a set of asynchronous commands”. The Applicant respectfully submits that not only does Dingwall fail to teach this step, it is fundamentally incompatible with it. Therefore, Dingwall cannot be combined with another reference to teach the subject matter of claim 1.

Dingwall describes a method and apparatus for embedding a real-time multi-tasking kernel in a non-real-time operating system. As is stated in col. 3, lines 5-8, “The present invention utilizes the VxD environment in Windows® to provide real-time interrupt handling and task scheduling for personal computer applications dealing with communications and natural data types”. The solution conceived by Dingwall is to store and initialize a set of pre-existing tasks in a Virtual Device Driver (VxD) at system initialization (col. 3, lines 63-65) before the computer begins normal operation (col. 4, lines 25-27).

It should be understood that initialization refers to when a device is started and does not read on “user mode level”. It should also be understood that Dingwall has set out the method this way because the tasks in question are of a nature that does not require them to be provided as a sequence of commands by an application at a user mode level. For example, if the device is an audio/video playback device, the task can be “play”, “fast forward”, “rewind”, etc. When the device is started, the tasks are initialized during the initialization phase, meaning they become available in kernel mode. When a given action is performed, a request is sent to the kernel mode to activate a task, for example if the “play” button is selected, then the kernel mode is asked to play the movie without any

interruption. The objective is to avoid having interruptions when executing from the kernel mode.

Evidence that the teachings of Dingwall are fundamentally different from the subject matter of claim 1 is found in the following statement: "The present invention presents a method for embedding a real-time scheduler into a VxD, in order to provide real-time multi-tasking for communication and natural data type applications" (col. 3, lines 42-45). It should be clear that this is the core of the teachings of Dingwall, and modifying these teachings such that 1- instead of storing and initializing a set of pre-existing tasks, a sequence to be followed for a set of asynchronous commands are determined, and 2- this step is not done at initialization but rather at a "user mode level", is an incompatible modification that goes against the teachings of Dingwall, regardless of the prior art with which Dingwall is combined.

The Examiner alleges that Clayton teaches the step of "having said at least one application at said user mode level determine a sequence to be followed for a set of asynchronous commands". The Applicant respectfully disagrees for the following reasons. Clayton does not describe a system having two distinct modes of operation/execution, namely a user mode and a privileged (or kernel) mode. It should not be assumed that Clayton implicitly teaches having these two modes since there are many systems that do not have these two distinct modes. In addition, Clayton refers to "an information appliance device" or an "electronic device" and these devices do not generally have the more advanced type of operating system that would run on two modes. Note that in a system having a single mode of operation, this single mode is neither the user mode nor the privileged mode. Therefore, the Applicant respectfully submits that Clayton fails to teach or suggest any step of a method that is performed at a user mode level.

Therefore, the Applicant respectfully requests that the rejection against claims 1-14 be withdrawn.

Conclusions

It is believed that Claims 1-14 are allowable over the prior art and a Notice of Allowance is earnestly solicited.

Respectfully submitted,
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